REMARKS:

Miscellaneous Remarks

The Examiner noted that the Applicant claimed a synergistic herbicidal mixture and that component C of the mixture was optional. Therefore, the Examiner did not evaluate the compounds of table 2 for synergism. The Applicant notes that claim 1 has been amended to require the presence of component C in the mixture.

Rejections under 35 USC § 102(b)

The Examiner has rejected claims 1-33 under 35 USC § 102(b) as being anticipated by Sievernich (CA 2,334,995). Sievernich generically discloses synergistic herbicidal mixtures, comprising A) at least one 3-heterocyclyl-substituted benzoyl derivative of the formula I; and B) a synergistically effective amount of at least one herbicidal compound from the group comprising certain herbicide classes. Sievernich teaches as preferred component A (see page 24, lines 42-44), 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole (compound Ia.33 in the instant specification). Sievernich also discloses flumetsulam (see page 40, lines 7-9 and table 2) as potential component B and also clopyralid (see page 41, lines 7-12 and table 2) is disclosed as potential component B in the claimed mixtures.

However, ternary synergistic herbicidal mixtures, comprising 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole and flumetsulam or clopyralid and a third herbicidal compound are not disclosed or suggested in Sievernich. Thus, the elements of new claim 1 are not disclosed in the cited prior art reference and this rejection should be withdrawn.

Furthermore, Sievernich teaches that compounds of formula I can advantageously be mixed with certain other herbicidal compounds. Examples of synergistic activity are demonstrated for a number of binary mixtures of compounds of formula I with herbicides selected from the groups B1 to B16, however not with flumetsulam from the group B2 or clopyralid from the group B4. Sievernich also teaches synergistic ternary mixtures of compounds of formula I with: nicosulfuron (B2) and dicamba (B14) (see table 76); diflufenzopyr (B5) and dicamba (B14) (see tables 77 and 78); dimethenamide (B9) and atrazine (B12) (see table 79); bentazone (B12) and atrazine (B12) (see table 80); and atrazine (B12) and dicamba (B14) (see table 81 and 82). One of skill in the art would not be motivated to use mixtures other than those exemplified as synergistic mixtures by Sievernich. Usually, a synergistic effect cannot be predicted from the herbicidal activity of the individual components as adverse effects may arise. Sievernich also teaches away from ternary mixtures comprising flumetsulam or clopyralid. None of the ternary mixtures disclosed by Sievernich contains either flumetsulam or clopyralid as component B. Also, not a single of the many binary mixtures exemplified in Sievernich contains one of these compounds. Sievernich provides no indication as to how one might select the inventive components B from the wide range of potential mixing partners and to choose an additional third component C. Thus if one of skill in the art looked for ternary synergistic mixtures other than those exemplified in the reference, at most they would consider ternary mixtures based on the binary mixtures exemplified in Sievernich. Due to the complex interactions of different active ingredients, there is no reason for one of skill in the art, having a wide selection of synergistically effective binary and ternary mixtures at his disposal, to take a risk with random mixtures from the generic disclosure.

In addition, the subject matter of the pending application is not just effective, but also synergistic herbicidal mixtures as demonstrated by the respective experimental data. The Colby-value, which stands for the calculated additive effect [%], has to be compared to the observed effect (damage [%]). This data demonstrates that the inventive mixtures result in more than a simply additive effect. These results are surprising and non-obvious in view of the prior art. One of skill in the art would not have guessed or known which of the numerous possible combinations from a generic disclosure or other prior art would show synergistic activity and not detrimental effects.

Regarding the claims to the mixing ratios and application rates of the herbicidal composition, one of skill in the art, with knowledge of the inventive mixture, will be able to find the optimal application rate and mixing ratio for the conditions prevailing in his field (soil and weather conditions, crop, unwanted vegetation, etc.). By providing examples for the inventive mixtures demonstrating substantial increase in activity over the additive effects at different application rates, with different mixing ratios and for a wide variety of important weeds, the specification provides sufficient description so that one of skill in the art would be able to determine proper mixing ratios and application rates. In addition, the Examiner argues that there is a relation between application rate and synergism. The Applicant would like to point out that these two parameters do not necessarily depend on each other. Normally, the application rate of a herbicide correlates with the damage observed in the undesired vegetation. As herbicides interfere with essential metabolic pathways, a higher damage can be expected with higher application rates, unless for example, salvage pathways or other defensive mechanisms exist. The concentration [g/L] of the herbicide applied is not relevant as the application rate [g/ha] in the field also depends on, for

example, the spray volume [L]. Thus, the only meaningful parameter for assessing the herbicidal activity is the application rate.

The above arguments demonstrate that the subject matter of the present invention is novel and non-obvious over the disclosure of Sievernich and the rejection should be withdrawn. If the Examiner requests one, we can file a Rule 132 Declaration which would include the above-mentioned interpretation by one of skill in the art of the disclosure provided by the examples in the specification.

Double Patenting

We request that this rejection be held in abeyance until one of the cases issues.

In view of the foregoing, it is submitted that the present application is now in condition for allowance. Reconsideration and allowance of the pending claims are requested. The Director is authorized to charge any fees or credit any overpayment to Deposit Account No. 02-2135.

Respectfully submitted,

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